DOCUMENT RESUME

ED 207 168 EA 013 906

AUTHOR Mosow, David K.; Hewitt, Thomas W.
TITLE The Microcomputer and Management of the Time Bound Educational Program.
PUB DATE [80]
NOTE 8p.; Not available in paper copy due to light print of original document.

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Computer Oriented Programs; Elementary Secondary Education; Higher Education; *Management Information Systems; *Microcomputers; Program Evaluation; *Teacher Education
IDENTIFIERS Computer Literacy

ABSTRACT

An example of the application of microcomputers to education, described in this paper, indicates the possibilities for their widespread use. Forecasters claim that microcomputers will be acquired by more and more individuals and families in the 1980s. This implies that schools will also make greater use of microcomputers, in computer-assisted instruction, school management, and training in computer literacy. At present, few teacher education programs are training their students in computer usage. A Teacher Corps project at the University of South Alabama uses microcomputers both to train its students in computers and to help manage the project. As a time-bound program, the project must meet its objectives before its funding ends. Data on staff activities, entered into a microcomputer by staff members, allows the managers to monitor progress toward project objectives, analyze where staff effort is going, and decide which objectives need more staff time. Because of the project, the university and the local school system have broadened or have investigated further their use of microcomputers in both instruction and management. (RW)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ED207168

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.

Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

T W Hewitt

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

# THE MICROCOMPUTER AND MANAGEMENT of the TIME BOUND EDUCATIONAL PROGRAM

David K. Mosow
University of South Alabama
Mobile, Alabama 36688

and

Thomas W. Hewitt
University of South Alabama
Mobile, Alabama 36688

The increasing access of the average American to microcomputers represents a significant change in the social process. It has been estimated that by 1985, nine out of ten Americans will possess a microcomputing device. Folk (1978) suggests there will be more microcomputers than automobiles per household in the United States in the late 1980's. Cornish (1981) suggests that by 1990 over half of the American homes will have access to a microcomputer or own a terminal with telecommunications capability. The success of microcomputing is attributable to both its increasing accessibility and decreasing cost. Highly versatile units, allowing inuiviqualized use, are available for less than $1,000. This personalization of the microcomputer is the beginning of America's newest technological craze much like the car or the television.

## Implications

Microcomputing technology is especially significant for the field of schooling and education. The increased social acceptance and use of the computer among the general population will create a demand to

EA 013 906

develop computer literacy among young people and adults. Secondly, the microcomputer will become a practical and effective mechanism for improving the quality and efficiency of the instructional process. Computer assisted and computer managed instruction will gain increasing acceptance. As an example of this growing trend, Louis Frensel estimates that fifteen percent (15%) of all microcomputers sold in 1981 will be sold to educational concerns. These data processing capabilities are primarily available to students in the areas of science and math. It is estimated that thrity percent (30%) of the nations's high schools use computers, while only five percent (5%) of the elementary schools do. Such trends, with the easy access to simple microcomputer systems and the succession of low-cost technology, continue to grow and impact at all levels of education.

The Bell & Howell Corporation suggests through their marketing analysis that the sale of microcomputers to school districts will quadruple by 1982. They attribute these projections to the lower costs and greater accessibility of the new microcomputers. Those who are informed about computer technology suggest that the next great educational crisis will concern computer literacy. The rapid assimilation of microcomputer technology will require a population conversant and technically familiar with the computer. Donald Michael in the UNPREPARED SOCIETY (1968) suggests that ignorance of computers will render people as functionally illiterate as ignorance of basic communication skills. The future equity of educational opportunities depends upon equal access in obtaining basic computer literacy.

## Schools and Computers

Growing public demand and increasing dependency upon microcomputer technology will impact the educational arena. There will not only be a demand for training but for application of the computer as a school management and instructional tool. Computer assisted instruction is now generally acknowledged as one means of improving student learning. In this form the computer serves as a: (1) medium to individualized instruction, (2) a diagnostic tool, (3) an interactive mode for providing immediate feedback, and (4) a time-saving tool in constructing and providing problems. The use and application of the microcomputer seem bound only by the imagination. Reading in the microcomputer literature, one notes that schools and non-educational institutions have used these computers for keeping daily attendance, equipment inventory, textbook inventories, etc. The biggest problem in use of microcomputers is the lack of trained personnel to train others.

Those involved in the training of teachers are generally unfamiliar with microcomputer technology and consequently few computer-training requirements exist in preservice or inservice programs. Many educational institutions are not preparing programs to adapt students and/or teachers to this emerging technology.

## Project Applications

The University of South Alabama houses a federally funded Teacher Corps Project which is designed to provide inservice education to teachers dealing with troubled or delinquent youth. To achieve this goal, the Teacher Corps Project is committed to the use of

microcomputers for instruction and management in order to improve the educational climate for the student. The thrust addressed in this paper is the project management information system and use of the microcomputer.

Being a federally funded program, it becomes time bound. That is, the funding will terminate at a predetermined time. To achieve the program goals during this predetermined time interval, a set of objectives was established. Two premises are put forth with respect to the program objectives:

1. The attainment of these objectives constitutes a successful program.
2. The objectives can be monitored by monitoring staff activity.

First, the premise is accepted that those objectives set down in the grant proposal document are important and, in fact, they operationally define project influence. Thus, meeting those objectives constitutes a successful program.

Secondly, the premise is accepted that staff members and their activity channelled toward the program objectives will contribute to the attainment of those objectives.

To monitor combinations of program objectives and relative staff activity, a data base management system was designed to run on an APPLE II plus microcomputer. The system is configured to allow 48K bytes of internal memory. Auxiliary memory devices include two, five and one-quarter inch (5 1/4") disk drives. The output devices are an Anadex 9500 matrix quality printer and a small black and white monitor. The software utilized to drive this information system is

"The Data Base Management System" by High Technology, Inc.

To build this data base, each staff member completes a small document as he/she performs an activity of significant magnitude to be classified as relating to one of the program objectives. On this data entry document, the following information is captured:

1. Date.
2. Related Program Objective.
3. Activity.
4. Individual Staff Member Reporting.
5. Hours Spent.
6. Others Involved.

In an interactive mode, the information is keyed into disk memory. It can then be sorted and sub-sorted by any of the six categories. A sort by objectives, sub-sorted by date will give a chronological description of all activity related to each objective for a time period set by the individual generating the report. By utilizing the summation of hours spent with respect to each objective, it becomes obvious which objectives are requiring most of the staff activity and which objectives should be investigated to determine if more concentrated effort is needed.

This information has allowed the Teacher Corps Project to make mid-course corrections in staff effort long before the program reaches a point where recovery would be extremely difficult.

Spinoffs

After seeing the data base concept in operation, the University

of South Alabama has purchased additional APPLE II°s to track other segments of teacher education. The Mobile Public School System, Staff Development Center, is investigating the use of the APPLE II to track district employees and the staff development activities in which they have been involved. In addition, several district administrators and local school officials are actively pursuing purchasing microcomputers for computer managed instruction, computer assisted instruction, and student records management.

References

Braun, Ludwig. "A Speculation on the Impact of LSI Technology on Computing" in Computers and Communications-Implications for Education. Academic Press, Inc., New York, 1977.

Braun, Ludwig. "Computers and Education--The Promise and Fullfillment" APPLE, Vol. 1, No. 1, 1979.

Braun, Ludwig. "What We Can Do With Micro-Computers That We Couldn°t Do Before in Education," Unpublished Paper.

Elliott, Bob. "Programming in the Classroom," Mathematics in School, Vol. 8, No. 2, Pp. 11, March, 1979.

Folk, Mike. "Should Your School Get A Micro-Computer," Mathematics Teacher, Vol. 71, No. 7, October, 1978.

Frensel, Louis, A Crash Course In Microcomputers, Sams Publishing Company, Inc., Indianapolis, 1980.

Herstein, Ed. "Choosing A Classroom Microcomputer," Computing Teacher, Vol. 6, No. 4, Pp. 54-55, May, 1979.

McIsaac, Don. "Conquering the Fear of Flying with Computers: The State of the Art in Educational Management," an unpublished paper delivered at the University of South Alabama, June, 1979.

Michael, Donald N. The Unprepared Society, Basic Books, Inc., New York, 1968.

Microcomputer Sourcebook for Educators. Fort Worth, Texas: Radio Shack, 1979.

Milner, Stuart D. "Teaching Teachers About Computers: A Necessity for Education," Phi Delta Kappan, Vol. 61, No. 8, April, 1980.

Milner, Stuart and Carol Hargen. "Microcomputers...The Future is Now," The Practitioner, Vol. VI, No. 1, October, 1979.

Molnar, Andrew. "The Next Great Crisis in American Education: Computer Literacy," a paper presented at the meeting of the Society of Applied Learning Technology, Orlando, Florida, 1978.

Piele, Donald T. "Micros °Go To° School," Creative Computing, Vol. 5, No. 9, Pp. 132-34, September, 1979.